

*Stated Meeting, March 21.*

Present, fourteen members.

Dr. FRANKLIN BACHE, Vice-President, in the Chair.

A letter was read:—

From Dr. A. Dallas Bache, Superintendent of the United States Coast Survey, dated Washington, 27th December, 1850, announcing the transmission of a donation to this Society, by direction of the Treasury Department.

The following donations were announced:—

FOR THE LIBRARY.

Astronomical and Magnetical and Meteorological Observations, made at the Royal Observatory, Greenwich, in the Year 1848, under the Direction of George Biddell Airy, Esq., M.A., Astronomer Royal. Published by Order of the Board of Admiralty. London, 1850. 4to.—*From the Royal Society of London.*

Observations made at the Magnetical and Meteorological Observatory at Hobarton, in Van Diemen Island, and by the Antarctic Naval Expedition. Printed by Order of Her Majesty's Government, under the Superintendence of Lieut. Col. Edward Sabine, R. A. Vol. I. commencing with 1841; with Abstracts of the Observations from 1841 to 1848, inclusive. London, 1850. 4to.—*From the British Government.*

U. S. Coast Survey Maps: 1. Cat and Ship Islands: 2. Hyannis Harbour: 3. Pasquotank River.—*From the U. S. Treasury Department.*

Bibliotheca Firmiana, sive Thesaurus Librorum. 9 Vols. 4to. Mediolani, 1783.—*From Dr. L. Turnbull.*

The Quarterly Journal of the Chemical Society. Vol. III. No. 12. London, Jan. 1, 1851. 8vo.—*From the Society.*

The African Repository. Vol. XXVII. No. 3. March 1851. Washington. 8vo.—*From the American Colonization Society.*

On the Velocity of the Galvanic Current in Telegraph Wires. By B. A. Gould, Jr. (Am. Jour. Sci. and Arts, Jan. 1851.) New Haven. 8vo.—*From the Author.*

The Twenty-third Annual Report of the Board of Managers of the

House of Refuge, with an Appendix. Philadelphia, 1851.—*From James J. Barclay, Esq.*

The Plough, the Loom, and the Anvil. Vol. III. No. 9. March, 1851. Philadelphia. 8vo.—*From J. S. Skinner, Esq., Editor.*

Mr. Lea made the following remarks on a communication from Professor Agassiz to the Natural History Society of Boston:—

In the last number, just published, of the Proceedings of the Boston Society of Natural History, Prof. Agassiz states that he had been engaged in the study of the soft parts of the American fresh water Molluscs, with the object of “discovering some new characters on which to base an accurate classification.” He states that he had “found, that in addition to the two muscular impressions in the shell usually described, there are generally two or more produced by muscular fibres springing from the foot, which impressions, in some species, are confluent, in others more or less distinct.”

The existence of these muscular fibres was communicated by me to this Society in November, 1827, and published in Vol. III. page 263, of the Transactions, new series. The paragraph is as follows: “There cannot be a doubt that the two pairs of muscles which support the feet, and serve by their alternate action to give the animal locomotion, are entirely distinct from the great anterior and posterior muscles, which seem but to serve the purpose of closing the valves opened by the elasticity of the ligament. The cicatrices of the muscles of the foot, anteriorly, are placed *under* the great anterior cicatrix; posteriorly, *over* the great posterior cicatrix, and are sometimes confluent with the great cicatrices, sometimes entirely distinct from them.”

Again, Prof. Agassiz states that “other impressions exist, produced by the gills, the palpi, and the dorsal gland.” These were noticed by me at the same time as “another set (dorsal) of attaching muscles which seemed to have escaped attention.” They are mentioned by me as “making impressions (cicatrices) in the cavity of the valve beneath the beak.” They are stated as “supporting the mantle, branchiæ,” &c. In regard to the observation of Prof. Agassiz, that “these impressions in some species are confluent, in others more or less distinct,” I was, when I first observed this anatomical structure, so much impressed with its importance, that I used it in descriptions of the species made known in that paper, and have, I believe, used it

in every one of the several hundred new species since published by me.

In a subsequent paper, which I read before this Society in March, 1829, and which the Society did me the favour to have published in its Transactions, Vol. III., new series, page 414, is a paragraph on "*Muscular Impressions.*" I mentioned their importance, and stated that they "should always have our attention in examining a specimen." And further, I stated that "it should be understood that the animals of this family always possess two pairs of muscles, used for locomotion, and placed near or in contact with the two adductor muscles, used solely for closing the valves. In the anterior margin these are generally separate; in the posterior, more generally confluent; but in the same species we sometimes find individuals presenting two, sometimes three, and sometimes four cicatrices, besides those of the cavity of the beaks; and this depends, in a great measure, on the thickness of the shell. If the species be ponderous, we often find the posterior muscle of the foot attached to the inside of the lamellar tooth, near to its termination; if it be thin, although of the same species, it will be found generally confluent, or near to the great posterior muscle. The cicatrices made by the superior part of the mantle in ponderous shells, generally will be found on the under part of the cardinal tooth. In thin shells these cicatrices will be found in the cavity of the beaks, generally traversing it in an oblique direction." Again in a paper read May 7, 1830, Vol. IV. page 67, in a note on *Hyria avicularis*, I mention having "discovered that the extensor muscle of the foot is attached to the internal base of the cardinal tooth, and there forms a remarkable cicatrix," &c. In a subsequent paper, when describing *Unio Browianus* (a *Hyria*), I mention that the "cicatrix of the *extensor muscle* is placed over that of the anterior adductor muscle."

As other "new characters," Prof. Agassiz states, that "in some of the Naiades, the *posterior* portion of the gills only is found to be distended with eggs at the breeding season; in others the whole gill is so distended." In a paper read to this Society in July, 1837, and published in Vol. VI. of Transactions, page 48, new series, I mentioned, that "believing the oviducts would present to us the means of discrimination in some of the species, having found them to be so very different in the *Unio irroratus*, my attention had been particularly addressed to these organs, in the few and small species of our vicinity." In this paper I gave figures of four species, displaying the position of the oviducts, two of them, the *Unio ochraceus* and the *Unio*

*cariosus*, having the posterior portion of them charged with eggs, while the *whole length of the branchiæ* had oviducts charged in the other two, the *Anodonta fluvialis* and *Anodonta undulata*. In the text, I stated that in species having certain distinctions, "the oviducts will be found to be placed in the *posterior portion of the branchiæ*."

In regard to the *Anodontæ*, I stated that they were not, like the *Uniones*, figured, with the posterior portion of the branchiæ charged with eggs, but that they presented "an even mass from the anterior to the posterior part." Mentioning some specimens of *Anodonta Ferrussaciana* being examined, I stated that "the whole lobe of the superior *branchiæ*" were found "charged with ova." The period of gestation was considered by me as very important, and many observations were made, which may be found in my papers, particularly in those of July 15, 1836, and February 19, 1841.

Prof. Agassiz announces that "the *Unio gracilis* and *Unio fragilis*, usually considered separate species," are not distinct. I pointed this out in my synopsis, in June, 1838, in Vol. VI. of Transactions, new series, page 121.

Prof. Agassiz must have overlooked these observations published so long since, but I deem it due to myself to make this reclamation.\*

Pending nominations, from Nos. 242 to 248, and new nominations, from Nos. 250 to 255, were read.

The Clerk read the proceedings of a special meeting of the Officers and Council held on the 14th inst.

In accordance with the resolution of the Officers and Council, an amendment of the By-laws was proposed.

\* It is only due to Poli and to Pfeiffer, to say that they had both observed and figured the muscles of the foot under the term of the "muscles of the stomach." When I wrote my early papers, where the anatomy and physiology of the Naïades were partially given, I was not acquainted with the excellent works of these able and distinguished zoologists. I believe that no copy of their works had then reached this country. The great work of Poli is perhaps unequalled in its accuracy and magnificence.